

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-39. (Canceled)

40. (Currently Amended) A laser structure comprising:

an elongated, dielectric waveguide structure having a plurality of waveguide channels therein, said waveguide channels including a gaseous gain medium;

a pair of electrodes including a first electrode extending along a first elongated surface of the waveguide structure and a second electrode extending along a second elongated surface of the waveguide structure, the first elongated surface being opposite and parallel to the second elongated surface, each of said first and second electrodes being divided into spaced apart first and second electrode portions, each of said spaced apart first and second electrode portions of said first electrode being electrically connectable to an RF power supply for applying an RF potential across said gain medium;

a metal housing enclosing said waveguide structure and said pair of electrodes, with said first electrode being electrically isolated from said metal housing; and

a metal shield located between said spaced apart first and second portions of each of said first and second electrodes, the metal shield being positioned orthogonal to said first and second elongated surfaces so as to prevent RF coupling between said spaced apart first and second portions of said first and second electrodes.

41. (Previously Presented) The laser structure of claim 40 wherein said spaced apart first and second portions of said second electrode are electrically connected to said metal housing.

42. (Currently Amended) A laser structure comprising:

a laser resonator having a resonator axis;

an elongated dielectric waveguide structure having a plurality of waveguide channels therein, said waveguide channels including a gaseous gain medium, and said resonator axis extending through said plurality of waveguide channels;

a pair of electrodes including a first electrode extending along a first elongated surface of the waveguide structure and a second electrode extending along a second elongated surface of the waveguide structure, the first elongated surface being opposite and parallel to the second elongated surface, each of said first and second electrodes being divided into spaced apart first and second electrode portions, each of said spaced apart first and second electrode portions of said first electrode being electrically connectable to an RF power supply for applying RF energy to said gain medium, thereby causing laser radiation to circulate in said laser resonator as guided by said waveguide channels;

a metal housing enclosing said waveguide structure and said pair of electrodes, with said first electrode being electrically isolated from said metal housing; and

a metal shield located between spaced apart first and second portions of each of said first and second electrodes transverse to said waveguide structure to prevent RF coupling between said spaced apart first and second portions of ~~said first and second electrodes~~, said metal shield being electrically isolated from said first electrode and electrically connected to said metal housing.

43. (Previously Presented) The laser structure of claim 42, wherein said metal housing is grounded.

44. (Previously Presented) The laser structure of claim 42 wherein said spaced apart first and second portions of said second electrode are each electrically connected to said metal housing.

45. (Previously Presented) The laser structure of claim 42, wherein said metal shield is in the form of an elongated metal plate having a plurality of spaced-apart metal fingers extending therefrom, with spaces between said metal fingers arranged to allow passage therethrough of laser radiation guided by said waveguide channels.

46. (Previously Presented) The laser structure of claim 45, wherein said metal fingers extend through holes in said waveguide structure.

47. (Previously Presented) The laser structure of claim 46, wherein said shield is located at a predetermined distance from said spaced apart first and second portions of said first and second electrodes, said predetermined distance being selected to prevent electrical arcing between said spaced apart first and second portions of said first and second electrodes.

48. (Currently Amended) A laser comprising:

a laser resonator having a resonator axis;

an elongated dielectric waveguide structure having a plurality of waveguide channels therein, said waveguide channels including a gaseous gain medium, and said resonator axis extending through said plurality of waveguide channels;

an RF power supply;

a pair of electrodes including a first electrode extending along a first elongated surface of the waveguide structure and a second electrode extending along a second elongated surface of the waveguide structure, the first elongated surface being opposite and parallel to the second elongated surface, each of said first and second electrodes being divided into spaced apart first and second electrode portions, each of said spaced apart first and second electrode portions of said first electrode being electrically connected to said RF power supply for applying RF energy to said gain medium, thereby causing laser radiation to circulate in said laser resonator guided by said waveguide channels;

a metal housing enclosing said waveguide structure and said first and second electrodes, with said first electrode being electrically isolated from said metal housing; and

a metal shield located between spaced apart first and second portions of each of said first and second electrodes transverse to said waveguide structure to prevent RF coupling between said spaced apart first and second portions of said first and second

electrodes, said metal shield being electrically isolated from said first electrode and electrically connected to said metal housing.

49. (Previously Presented) The laser of claim 48, wherein said metal shield is in the form of an elongated metal plate having a plurality of spaced-apart metal fingers extending therefrom, with spaces between said metal fingers arranged to allow passage of laser radiation guided by said waveguide channels.

50. (Currently Amended) A laser comprising:

a laser resonator having a resonator axis;

an elongated dielectric waveguide structure having a plurality of waveguide channels therein, said waveguide channels including a gaseous gain medium, and said resonator axis extending through said plurality of waveguide channels;

a pair of electrodes including a first electrode extending along a first elongated surface of the waveguide structure and a second electrode extending along a second elongated surface of the waveguide structure, the first elongated surface being opposite and parallel to the second elongated surface, each of said first and second electrodes being divided into spaced apart first and second electrode portions;

a metal housing enclosing said waveguide structure and said pair of electrodes, with said first and second electrode portions of said first electrode being electrically isolated from said metal housing, and said first and second electrode portions of said second electrode being electrically connected to said metal housing;

first and second RF power supplies, said first portion of said first electrode being electrically connected to said first RF power supply, and said second portion of said first electrode being electrically connected to said second RF power supply for applying RF energy to said gain medium, thereby causing laser radiation to circulate in said laser resonator guided by said waveguide channels; and

a metal shield located between spaced apart first and second portions of each of said first and second electrodes transverse to said waveguide structure to prevent RF coupling between said spaced apart first and second portions of said first and second

electrodes, said metal shield being electrically isolated from said first electrode and electrically connected to said metal housing.

51. (Previously Presented) The laser of claim 50, wherein said metal shield is in the form of an elongated metal plate having a plurality of spaced-apart metal fingers extending therefrom, with spaces between said metal fingers arranged to allow passage of laser radiation guided by said waveguide channels.

52. (Previously Presented) The laser of claim 50, wherein said first and second RF power supplies share a common oscillator and at least one preamplifier, whereby each of the first and second electrodes can be driven in phase.